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REMARKS

Claims 1-33 are pending in the application. Applicants amend claims 1, 4, and 32-33 for clarification, and refer to Fig. 13 and its corresponding description—including page 25, lines 23-27—in the specification for an exemplary embodiment of and support for the claimed invention. No new matter has been added.

Claims 1-12 and 32-33 stand rejected under 35 U.S.C. § 102(b) as being anticipated by "Adaptive Beamforming of ESPAR Antenna Based on Steepest Gradient Algorithm" by Cheng et al.; claims 13-31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al. in view of U.S. Patent No. 6,369,758 to Zhang. Applicants amend claims 1, 4, and 32-33 in a good faith effort to clarify the invention as distinguished from the cited references, and respectfully traverse the rejections.

Applicants cited and described Cheng et al. on page 4, line 30 through page 6, line 15 of the specification as background of related art to the claimed invention. As described in Applicants' background in the specification, Cheng et al. describe perturbing reactances of (passive) antenna elements for every symbol. In other words, Cheng et al. describe updating the weighting of one (passive) antenna element by use of one symbol. And this technique, therefore, would require a number of symbols that corresponds to the number of antenna elements for which the weighting is to be updated, as described on page 25, lines 18-23 of the specification.

Thus, Cheng et al., as relied upon by the Examiner, fail to disclose,

> "[a] A method of controlling an array antenna part having a plurality of antenna elements arranged at a predetermined interval, comprising:
> obtaining a predetermined evaluation function with respect to each of weighting coefficients to be applied to incoming signals arriving at a plurality of antenna elements, by perturbing each of

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the weighting coefficients at a sampling interval which is <u>within one symbol time</u>; and
adjusting each of the weighting coefficients based on the evaluation function," as recited in claim 1. (Emphasis added)

Advantageously, the claimed invention provides for perturbing the reactances of (passive) antenna elements <u>within one symbol</u>. And by updating the weighting of <u>a plurality of</u> (passive) antenna elements by using <u>one symbol</u>, the claimed invention provides for increased convergence speed of the optimizing algorithm.

Accordingly, Applicant respectfully submits that claim 1, together with claims 2-3 dependent therefrom, is patentable over <u>Cheng et al.</u> for at least the foregoing reasons. Claims 4 and 32-33 incorporate features that correspond to those of claim 1 cited above, and are, together with claims 5-12 dependent from claim 4, patentable over <u>Cheng et al.</u> for at least the same reasons. The Examiner cited and relied upon <u>Zhang</u> as a combining reference to specifically address the additional features recited in dependent claims 13-31. As such, the addition of this reference would still have failed to cure the above-described deficiencies of <u>Cheng et al.</u>, even assuming, <u>arguendo</u>, that such an addition would have been obvious to one skilled in the art at the time the claimed invention was made. Accordingly, Applicants respectfully submit that claims 13-31, which depend from claim 4, are patentable over the cited references for at least the foregoing reasons.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.
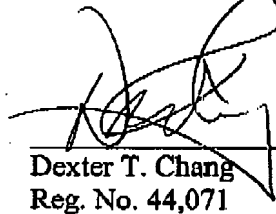
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Respectfully submitted,

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